E-Risk Study Concept Paper Form

Response was completed on 16-07-2025 13:41.

Record ID	50

1. Collaborating researchers

Please note:

Once approved, a formal data use agreement will be required between King's College London and the university or research organisation that employs any collaborator having access to the data if they are not a member of staff, a student or affiliate of King's College London. This needs to be signed by both universities/organisations before data access can be granted.

For projects carried out by a student (e.g., MSc/MA, MPhil/PhD, clinical doctorate), the lead applicant should be the student's supervisor at the same university, and the student should be named as the student collaborator requiring access to the data.

If you have additional collaborators, please name them below and indicate whether they need to have access to the data. It would be common, for instance, for other researchers to see summary results of analyses and act as co-authors on your paper without having access to the data. You will not be permitted to share the dataset except with those indicated in the table as requiring access.

Applicable?	**Category**	**Name**	**Email address**	**University/organisation**	**Needs access to data for analysis?**
	Applicant **(lead researcher)**	Timothy Matthews	t.matthews@greenwich.ac.uk	University of Greenwich	◉ Yes ○ No
○ Applicable ◉ Not applicable	**Student collaborator** ***(if data is for their dissertation/thesis)***				
◉ Applicable ○ Not applicable	**E-Risk Sponsor** ***(if applicant is not an E-Risk investigator)***	Candice Odgers	codgers@uci.edu	UC Irvine	○ Yes ◉ No

Are there additional collaborators to add?	◉ Yes ○ No
If yes, how many additional collaborators would you like to add?	1

Category	Name	Email address	University/organisation	Needs access to data for analysis?
Other collaborator #1	Helen Fisher	helen.2.fisher@kcl.ac.uk	King's College London	○ Yes ◉ No

Applicants: If you would like to continue your application later, please press the "Save and return later" button below. Please copy or write down the Return code provided.

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2. The project proposal

Note: *Please provide sufficient detail to enable the committee to review your proposal. Please be as specific as possible about the project aims and analysis methods as once approved this concept paper will be posted publicly and thus will act as a form of pre-registration of your project. Expand boxes as required.*

Title of project	A genetically-sensitive cohort study of cybervictimisation and loneliness in young adults
Background and rationale for project ***(approx. 300 - 1000 words)***	Public discussions around the issue of youth loneliness have placed emphasis on the alleged role of social media and digital technology as contributing risk factors. For example, the 'displacement hypothesis' argues that time spent online comes at a cost to more meaningful offline social activities (Kraut et al, 1998). Meanwhile, the 'rich get richer' hypothesis argues that to whatever extent social media provides opportunities to enhance existing social relationships, this will be of most benefit to those who already have the richest offline social lives (Pouwels et al, 2021). However, the empirical evidence suggests that generalised concerns about social media and loneliness may be misplaced. Use of social media per se does not reliably correspond to greater feelings of loneliness, nor does the amount of time spent using it (Matthews et al, 2025). Instead, it may be the specific types of experiences an individual encounters when using social media that have greater implications for loneliness. Exposure to victimisation has previously been shown to be a risk factor for loneliness (Matthews et al, 2022). In the digital age, 'cybervictimisation' has emerged as a relatively novel form of this type of risk factor. Cybervictimisation is argued to typically be an extension, or a strong correlate, of victimisation that is also taking place offline (Wolke et al, 2017). Nonetheless, both conventional peer victimisation and cybervictimisation have been found to be independently associated with loneliness (Matthews et al, 2022), suggesting that there are certain characteristics of cybervictimisation that are particularly salient for this outcome. Unlike peer victimisation, the perpetrators of cybervictimisation can be anonymous, and due to the distributed nature of the internet, dozens or hundreds of perpetrators could 'gang up' on the victim simultaneously. Moreover, even if the victim logs off or blocks the perpetrators, the abuse can continue; out of sight but not necessarily out of mind. Furthermore, the likelihood that the perpetrator(s) will be caught and face consequences is often slim. Therefore, cybervictimisation could be a uniquely isolating and disempowering experience for victims. Cybervictimisation, like offline victimisation, can take many forms, such as verbal abuse, defamation, physical threats, sexual harassment, violation of privacy and 'doxxing', and

	distribution of sexually explicit material without consent (Griffith et al, 2023). Therefore, rather than treating cybervictimisation as a single umbrella category, it would be informative to examine different types of victimisation and examine whether specific types are particularly salient for loneliness. There are multiple ways in which cybervictimisation could impact feelings of loneliness. The fact of being victimised could itself have direct implications for loneliness, in a similar fashion to offline victimisation. However, there could be second-order effects, whereby online victimisation 'spills over' into offline life, impacting relationships or employment, and compounding the victims' feelings of isolation (Odgers & Jensen, 2022). Twin studies have shown that exposure to various types of victimisation, including cybervictimisation, is influenced partly by genetic differences (Fisher et al 2015). Moreover, susceptibility to loneliness is itself partially heritable (Goossens et al, 2015). Observational studies of victimisation and loneliness may therefore be confounded by genetic correlations between these phenomena. The discordant twin method is a powerful tool for addressing this potential confounding, allowing the plausibility of causal hypotheses to be strengthened (Vitaro et al, 2009).
Project aims / objectives	The research questions of this study are as follows: 1. How common are experiences of cybervictimisation among young adults (aged 24-26)? 2. Does prior history of loneliness, mental health conditions and victimisation (including cybervictimisation) in childhood/adolescence predict cybervictimisation at age 24-26? 3. Are experiences of cybervictimisation at age 24-26 associated cross-sectionally with loneliness (over and above pre-existing environmental and genetic risk factors?) 4. Does perceived 'spillover' of cybervictimisation into offline life have further implications for loneliness?
Brief statement of your hypothesis	1. A majority of the sample will have experienced at least one form of cybervictimisation at least once between ages 18-26, and a significant proportion will have experienced at least one form of cybervictimisation repeatedly. 2. Cybervictimisation in early adulthood (after age 18) will be associated with greater loneliness, over and above prior experiences of loneliness, victimisation and mental health problems at age 18 or earlier. 3. Greater loneliness will correspond to negative (but not positive) forms of perceived 'spillover' of online victimisation into offline life.
Data analysis methods to be used ***(approx. 100 - 500 words)***	The main analysis data will be drawn from the SM2 survey, completed by 1,632 E-Risk participants when aged 24-26. Participants were asked about their current feelings of loneliness, and their experiences of cybervictimisation since the age of 18. These data will be supplemented with victimisation, loneliness and mental health data collected in the age-18 and age-12 sweeps of E-Risk. Linear regression with robust standard errors will be used to test cross-sectional associations between different forms of cybervictimisation and loneliness. In a series of hierarchical models, prior experiences of victimisation and loneliness, as well as depression and anxiety, will be introduced as covariates. Where associations are found to be robust to controls, they will be further interrogated by looking at twin pairs discordant for cybervictimisation. This will be conducted first using both MZ and DZ twin pairs, to control for shared environmental effects, and then using MZ pairs only, to further control for all genetic effects. We will also examine developmental profiles of cybervictimisation; that is, people who

	experienced it specifically in the period from age 12 to 18, those who experienced it in the period from 18 to 26, and those who experienced it during both these periods (or neither). This is a rare opportunity to test whether there is a timing effect of cybervictimisation, or a dose-response relationship with prolonged exposure. Further regression analyses will test for associations between loneliness and 'spillover', whereby cybervictimisation is reported to have had an impact (positive or negative) on offline relationships or employment.
Significance for theory, research methods, or clinical practice	Growing evidence (e.g. Thériault-Couture et al, under review) indicates that exposure to cybervictimisation is a risk factor for young people's mental health. Given the high prevalence of loneliness among adolescents and young adults, and its association with specific patterns of online behaviour, this study will provide novel insights into the types of online experiences (both current and historical) that can correspond to feelings of social disconnection.
References cited	Fisher, H. L., Caspi, A., Moffitt, T. E., Wertz, J., Gray, R., Newbury, J., Ambler, A., Zavos, H., Danese, A., Mill, J., Odgers, C. L., Pariante, C., Wong, C. Y., & Arseneault, L. (2015). Measuring adolescents' exposure to victimization: The Environmental Risk (E-Risk) Longitudinal Twin Study. Development and Psychopathology, 27, 1399-1416. Goossens, L., van Roekel, E., Verhagen, M., Cacioppo, J. T., Cacioppo, S., Maes, M., & Boomsma, D. I. (2015). The genetics of loneliness: linking evolutionary theory to genome-wide genetics, epigenetics, and social science. Perspectives on Psychological Science, 10(2), 213-226. Griffith, C. E., Tetzlaff-Bemiller, M., & Hunter, L. Y. (2023). Understanding the cyber-victimization of young people: A test of routine activities theory. Telemeatics and Informatics Reports, 9, 100042. Kraut, R., Patterson, M., Lundmark, V., Kiesler, S., Mukopadhyay, T., & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? American Psychologist, 53(9), 1017-1031. Matthews, T., Arseneault, L., Bryan, B. T., Fisher, H. L., Gray, R., Hency, J., Moffitt, T. E., & Odgers, C. L. (2025). Social media use, online experiences, and loneliness among young adults: A cohort study. Annals of the New York Academy of Sciences. doi: 10.1111/nyas.15370 Matthews, T., Caspi, A., Danese, A., Fisher, H. L., Moffitt, T. E., & Arseneault, L. (2022). A longitudinal twin study of victimization and loneliness from childhood to young adulthood. Development and Psychopathology, 34(1), 367-377. Odgers, C. L., Jensen, M. R. (2022). Adolescent development and growing divides in the digital age. Dialogues in Clinical Neuroscience, 22(2), 143-149. Pouwels, J. L., Valkenburg, P. M., Beyens, I., van Driel, I., & Keijsers, L. (2021). Some socially poor but also some socially rich adolescents feel closer to their friends after using social media. Scientific Reports, 11, 21176. Thériault-Couture, F., Blangis, F., Dooley, N., Fisher, H. L., Matthews, T., Odgers, C. L., & Arseneault, L. (under review). Cybervictimisation and mental health conditions in young people: findings from a nationally representative longitudinal cohort. Lancet Psychiatry. Vitaro, F., Brendgen, M., & Arseneault, L. (2009). The discordant MZ-twin method: one step closer to the holy grail of causality. International Journal of Behavioral Development, 33(4), 376-382.

	Wolke, D., Lee, K., & Guy, A. (2017). Cyberbullying: a storm in a teacup? European Child & Adolescent Psychiatry, 26(8), 899-908.

Are there any files you would like to upload to support your concept paper?	○ Yes ◉ No

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3. Expected project outcomes

Please note:

The stated end date must be within 24 months of the date when this form is submitted. This end date will form part of the formal data use agreement and on this date you should delete the dataset. Therefore, it must be a realistic date for completion of the project including all analysis, writing a manuscript, review of the manuscript by all collaborators, submission, revisions, and acceptance of a paper for publication.

If you require an extension to the end date of the project, then you should contact Prof Fisher (helen.2.fisher@kcl.ac.uk) to discuss this. If you have signed a formal data use agreement, you will need to complete a form to request a licence extension. In some cases, we may also ask you to complete a new concept paper form if there have been substantial changes to the project or a long period of time has elapsed (e.g., greater than a year since the end date of the original project).

If the objective of the project is not a journal publication, please suggest an end date within 12 months instead of 24 months, and state a measurable, concrete outcome. If the objective of the project is a student dissertation, then the expected end date should be the deadline for submission of the dissertation; dissertation projects will only be accepted on agreement that they are strictly not for publication.

Date form submitted	15-07-2025 *DD-MM-YYYY*
End date for the project	15-07-2027 D-M-Y *DD-MM-YYYY*

Do you expect to publish your results in a journal?	◉ Yes ○ No

If yes, please provide a provisional list of author names	**Louise Arseneault, Bridget Bryan, Helen Fisher, Rebecca Gray, Joanne Henchy, Claire Monks, Frederic Theriault-Couture, Candice Odgers; plus other interested E-Risk co-investigators**
If yes, please provide a provisional list of journals	**Psychological Science, Psychological Medicine, Developmental Psychology**

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